in the vicinity I can remember the time when this butterfly was far commoner than at present. I took a brood of the larvæ on sallow inside this place about four years since, but have never met with another. In April of the year before last, two hibernated specimens were brought me alive by my gardener's boy, but I have not seen this insect at all in this neighbourhood since.

Vanessa io.—A few years ago this insect, which formerly was abundant about here every summer, seemed almost to have disappeared, but, last August, it suddenly came back in surprising numbers. Indeed, with the exception of *Aglais urticae*, it was the commonest of all the Vanessids. It seems to have quite established itself, and this July I found over 400 of the larvæ feeding within fifty yards of my house.

Dryas paphia is still fairly common in woodland clearings, etc., about here. I think that I have seen it more frequently than any other of the Fritillaries. I have never come across the var. *valezina*.

Argynnis adippe is, next to *D. paphia*, the most often met with of its family. It seems still to be holding its own in the district, though the country is being more and more cut up into small estates. It was very abundant this summer on thistle heads, etc., on the outskirts of a wood near here.

Argynnis aglaia, I regret to say, I have not seen in this neighbourhood for some years, but, though always a rare insect hereabouts, I can remember the time when it was to be found.

Brenthis euphrosyne is still far from uncommon about here.

Hipparchia semele is very common wherever there is a patch of heath-clad ground.

Bithys quercûs I have only met with once in a wood some three miles distant from this house.

Callophrys rubi is the only hairstreak which is at all abundant here.

Agriades corydon I have never seen about here, but it was taken by Dr. Cruttwell. I suppose the specimen had strayed from the chalk country about Guildford, which is only some ten miles away.

Celastrina argiolus is, as might be expected from the fact that both its foodplants are unusually common, the most noticeable of the Lycænids.

Cupido minima was taken on a hill just outside this place by Dr. Cruttwell, it does not seem to be at all common.

Hesperia malvæ I once met with in some abundance, resting on the heads of some thistles in a field outside Rapley Farm, near here. I have not often observed it in the neighbourhood.

Nisoniades tages I have never taken or seen here myself, but Dr. Cruttwell captured it quite close to this place.

Butterflies in the Wye Valley during 1906.

By. J. F. BIRD.

When living in London, my father and I kept a record of the lepidoptera seen by us each day, but gave up doing so in the country, thinking it would be too great an undertaking. This year I again started a daily record of the butterflies alone, the following being a summary of those noted in the Wye Valley, between Tintern and

Monmouth. Altogether, I have seen 32 species in this district during the season, and to these I have added *Eugonia polychloros*, caught by my father, and *Apatura iris*, observed by my brother in his garden. I have placed them in the order of their appearance:—

Gonepteryx rhamni.—Reappearance on the wing after hybernation, March 6th-June 20th. New brood, August 6th-September 16th. On February 27th, while looking at a Christmas rose, growing in a sheltered spot in our garden, I noticed one of these butterflies clinging to the underside of a leaf, so close to the ground, that the tips of the wings touched the soil; this, perhaps, being where it had passed through the winter. On March 4th, a fine sunny day, it disappeared.

Vanessa io.—Reappearance after hybernation, March 6th-June 6th. New brood, August 1st (bred), August 6th (first wild one) to August 31st, September 8th, September 30th.—Unusually plentiful this year; the hybernated specimens seen in great numbers, especially on the Gloucestershire side of the River Wye, sunning themselves on the road between Bigsweir Bridge and Redbrook.

Aglais urticae.—Reappearance after hybernation, March 7th-April 22nd. First brood, June 23rd-August 7th. Second brood (?), August 22nd to September 11th, September 22nd, October 12th. Also very common, especially during July. Many of this brood entered the house about the middle of July, as if to hybernate, but, after staying from about a week to a fortnight, they left. About the middle of August, specimens again began entering the house, this time to really hybernate. This species and *V. io* were abundant up to August 30th, the latter in companies on the *Eupatorium cannabinum*. The next day was the beginning of the heat wave, experienced all over England, the result being that *V. io* practically disappeared, only three specimens being noted after that date, and *A. urticae* came trooping into the house, seeking dark corners wherein to hybernate, where I really believe we could find two or three dozen. These we mean to leave in peace. *Gonepteryx rhamni* was also affected by the heat, no specimens being seen between August 30th and September 6th, when occasional specimens began appearing again at flowers in the garden.

Polygonia c-album.—Reappearance after hybernation, March 7th-April 4th. Most of the hybernated specimens I saw were in Gloucestershire, basking in the sun, on the road between Bigsweir Bridge and Redbrook. Summer brood, July 12th-August 6th. Autumn brood, September 3rd (first one bred from pupa found on August 26th, suspended to leaf-stalk of hop), September 6th (first wild one) to September 10th. On July 26th, I sleeved a female (netted that morning from thistle-blossom at Llandogo) on a currant bush. On the 31st it was dead, so I removed the sleeve, upon which I found nine ova, all laid separately within a space of three square inches, but not a single one on the plant itself. I also discovered four or five on my finger, which I must have dislodged while taking the netting off, but lost all but two of the latter while walking to the house. An examination through a pocket lens showed that these eleven ova differed in the number of longitudinal keels—six were with ten, four with eleven, and one with nine keels only. Six of these eggs I posted to Mr. Tonge, for photographic purposes, who informed me that they began to emerge on August 5th. He has since very kindly sent me some splendid photographs showing this species in its four stages. The ova

we kept all emerged on the 6th. These handsome larvæ, when nearly fullgrown, place themselves in an extraordinary attitude when resting. The posterior extremity up to, and sometimes, but rarely, including, the last pair of abdominal claspers, is lifted well off the foodplant; the anterior half is bent at right angles and slightly arched to one side, curved back again at the legs, so that the head is turned, almost at right angles, forward. The larvæ pupated between August 28th and August 30th, and so passed through the "heat wave" in that state. I think this must have hurried up the emergence of the imagines, the length of the pupal lives being from 10 to 13 days, instead of 23 to 27 days as noted for the autumn brood last year; averaging less than that of the summer brood, so far as we have ascertained. This high temperature, or, perhaps, the effect of it in hastening the emergence, seems to have acted upon the coloration of the wings, for the upper-sides of all, including the one bred from the pupa I found, have the light margins, and are as light in colour as ordinary specimens of the summer brood (not ab. *hutchinsoni*). The curious thing is that the abnormal heat (if I am right in imagining that to be the cause) has in no way affected the undersides; so that the six specimens we have bred this autumn, have, in appearance, first brood uppersides, with what I believe is the normal dark and plain undersides of the second brood. It would be interesting to hear what results other breeders of this insect have had this autumn.

Pieris rapae.—First brood, April 6th-June 24th. Second brood, July 24th-September 18th.

Pararge egeria.—April 12th, May 4th, and August 29th. In 1904, the males were exceedingly abundant, the females being much less common. In 1905, the species was decidedly scarcer. This year it was very scarce, in fact, the only specimens I saw were single ones on the dates mentioned.

Euchloë cardamines.—April 16th-June 19th. Not so common as usual.

Hesperia malvae.—April 25th-June 19th. Fairly common. On June 12th, I netted a beautifully marked ab. *taras*, unfortunately in rather poor condition.

Nisoniades tages.—May 13th-June 30th. Abundant this year.

Pieris napi.—First brood, May 13th-June 11th. Second brood, July 17th September 1st. Specimens of the second brood were not as well-marked as the same brood last year. The weather, during June and July, was much cooler here this year, than was the case in 1905, and I am wondering whether this was the reason. Examples obtained in 1905 are unusually well-marked, with extra spots showing on the hindwings, and some of the specimens are above the average in size.

Rumicia phlaeas.—First brood, May 15th-June 13th. Second brood, August 6th-September 1st. On August 8th, I captured, at Tintern, a ♀ ab. *caeruleopunctata*, with an extra spot on the forewings, in the discal cell, towards the base of the wings.

Brenthis euphrosyne.—May 15th-June 13th. Not quite so common in our immediate neighbourhood, but plentiful in Gloucestershire, near Redbrook.

Pyrameis cardui.—May 29th-July 25th. New brood, August 3rd (first one bred), August 6th (first wild one) to August 22nd.

Polyommatus icarus.—First brood, June 5th-July 19th. Second

brood, August 6th-September 4th. [I saw one at St. Owen's Cross, Herefordshire, on September 10th.] Although I spent a good many evenings examining specimens at rest, for aberrations, I obtained nothing very wonderful. Several I took show a tendency towards ab. *arcua*, and females of ab. *caerulea*, in varying shades, were as common as usual. The following are the most noteworthy specimens, all being underside aberrations:—(1) ♂, Tintern, August 16th; only the lower of the basal spots of forewings present. (2) ♂, Tintern, August 22nd; all the basal spots of forewings double, the lower spots inclined to unite with last spot of transverse row; in the left hindwing the ocellated spots between veins 1*b* and 1*c* (Meyrick's system) are united. (3) ♂, Tintern, August 30th; the lowest spot of transverse series on both forewings very small, and only faintly visible. (4) ♀, Tintern, August 11th; the orange spots on all the wings very large, being twice the average size; the lower ocellated spots on forewings showing a slight tendency to unite; above the transverse series on right forewing is a small extra spot; the spots between veins 1*a* and 1*b* of hindwings elongated into the shape of a comma. (5) ♀, Tintern, August 18th; a small extra spot above transverse row on forewings. (6) ♀, Tintern, August 22nd; the forewings with extra spots like the last, as well as this, the basal spots are asymmetrical conglomerations of spots and streaks, and the lowest spots of transverse row very large. (7) ♀, Tintern, August 21st; an extra ocellated spot on left forewing, between the discal spot and the top one of the transverse series.

Celastrina argiolus.—First brood, June 5th (only one observed). Second brood, August 7th-August 20th. Scarce.

Coenonympha pamphilus.—June 5th-July 25th, August 7th-September 4th. [St. Owen's Cross, Herefordshire, September 10th.] How many broods are there?

Pararge megaera.—First brood, June 5th-June 21st. Second brood, August 19th-August 28th. Not common. Last year it was most abundant.

Augiades sylvanus.—June 8th-August 6th. Common this year.

Epinephele jurtina.—June 18th-September 1st. I saw a freshly-emerged ♀ on August 30th. On July 11th, I netted a ♂ with one hindwing bleached, in the same field in which I captured two last year.

Pieris brassicae.—First brood, June 19th (Redbrook, Gloucestershire, only one seen). Second brood, July 9th-September 2nd. [Harewood End, Herefordshire, September 10th]. Fairly common.

Strymon w-album.—July 5th-August 9th. Abundant as usual.

Enodia hyperanthus.—July 5th-August 11th. I think more plentiful than usual. Abruptly disappeared after two or three very wet days.

Callophrys rubi.—July 9th. A single ♂ specimen at Llandogo, flying round and settling on bramble.

Adopaea flava.—July 9th-August 9th. Very common this year.

Pyrameis atalanta.—July 12th, one worn ♀ seen at bramble blossom. New brood, September 7th-September 18th. Extremely scarce.

Brenthis selene.—July 14th. Only one seen, at Llandogo.

Argynnis adippe.—July 20th. One ♀ only, at Llandogo.

Bithys quercûs.—July 20th-September 2nd. Not quite so common this year.

Apatura iris.—About the third week of July, my brother brought us a wing (♂) of this species found in his garden, on the lawn, and informed us that he had seen one fly past him. On August 19th, he saw a worn ♀ flying about a willow, also in his garden, which may have been ovipositing. Unfortunately, we shall not be able to search for larvæ there next year, as he is changing his residence.

Dryas paphia.—July 24th-August 9th and August 29th. The ♂s as common and as ragged as usual. A very few ♀s seen.

Epinephele tithonus.—August 6th. Only one ♂ seen, at Llandogo.

Hipparchia semele.—August 8th. As I was passing by a thistle, in a field at Tintern, I noticed one of these butterflies (a ♂) drop, rather than fly down from it, on to a dry patch of cow-dung lying by the side. This is the only one we have seen in the neighbourhood, and are rather surprised at not having met with more, as there are plenty of suitable-looking spots on the hills around where one would expect to find them.

Agriades corydon.—August 11th. One ♂ at Tintern, already noted in the *Ent. Record*, p. 241.

Eugonia polychloros.—August 29th. One was found by my father in the house, fluttering on a window.

My best record for one day was on August 6th, when I noted seventeen species, namely:—*Augiades sylvanus*, *Adopaea flava*, *Rumicia phlaeas*, *Polyommatus icarus*, *Bithys quercûs*, *Strymon w-album*, *Pieris brassicae*, *P. rapae*, *P. napi*, *Gonepteryx rhamni*, *Vanessa io*, *Aglais urticae*, *Polygonia c-album*, *Pyrameis cardui*, *Epinephele jurtina*, *E. tithonus*, and *Enodia hyperanthus*.

Some notes on Camptogramma fluviata with descriptions of new aberrations.

By Paymaster-in-Chief GERVASE F. MATHEW, R.N., F.E.S.

This species never appears to be abundant anywhere—one never hears of its capture in any numbers—only a stray one now and again turns up in widely separated localities, and at no fixed time of the year. Is it sluggish in its habits? Does it dislike to fly? One would think not, for it has been taken occasionally at light, and the first I ever met with, a male, was disturbed out of a bed of wild peppermint growing in one of the hollows on Braunton Burrows, North Devon, and flew off at a good pace, and I had to run to catch it. This was as long ago as August 25th, 1857, and, on July 23rd, the following year, one of my brothers caught a male at Croyde, a few miles from Braunton, but I have no record as to whether it was taken by day or night, sitting or flying. A good many years elapsed before I met with it again, for it was not until July 24th, 1901, that I took a male, at night, on some reeds, in a reed-bed near Dovercourt; on September 22nd, 1903, I boxed a pair, *in cop.*, about midnight, sitting on a barbed wire fence facing the sea, near Harwich; and, on October 12th, 1904, I took a fine fresh female at rest, by day, on a wall in High Street, Dovercourt, and kept her for eggs, but she died without depositing any, so I fancy she had never paired, as she was in such fine condition when captured.

The female of the pair taken *in cop.* on September 22nd, 1903, was kept for eggs, and confined in a chip-box with some fibres of tow, and fed on syrup placed on a little piece of sponge, and, in the course